

Latin America Trade & Transportation Study

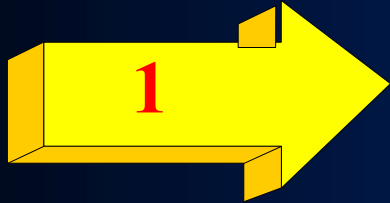


Short Sea Shipping Conference

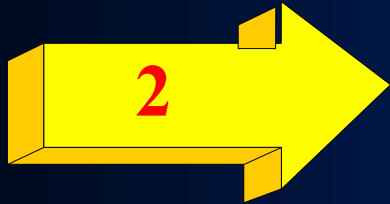
New York City, November 12th, 2002



LATTS: Key Study Purposes



Determine Latin American Trade Opportunities



Identify Transportation Investments to Support Trade Growth

LATTS II Alliance Region

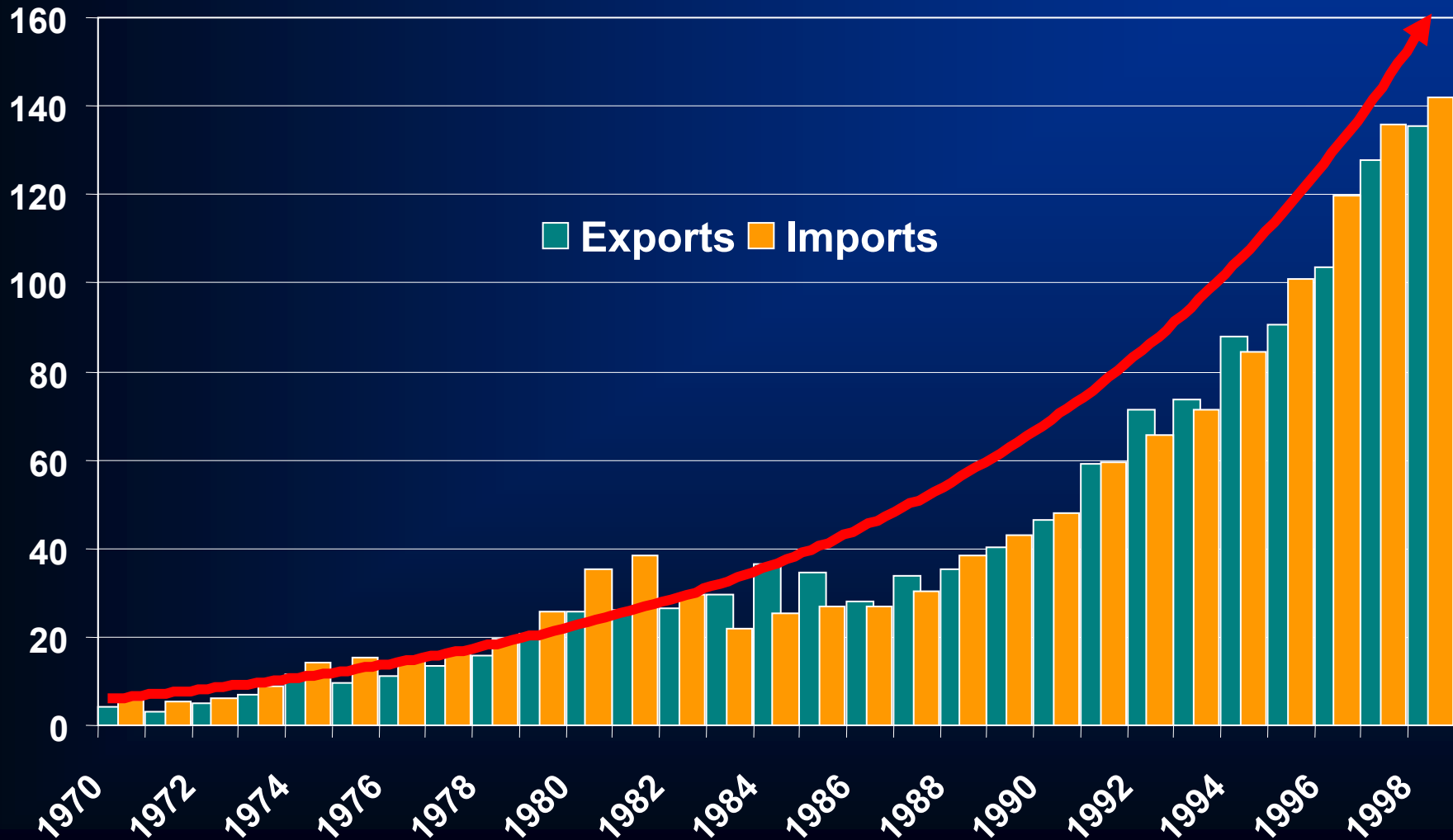


LATTS II Study Regions

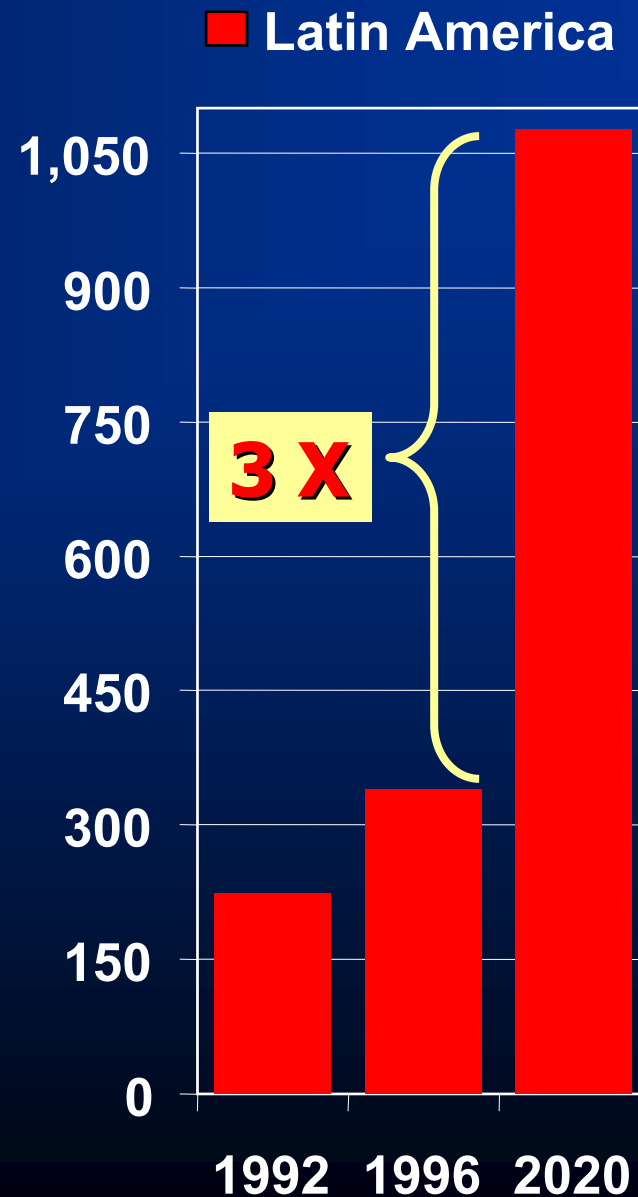
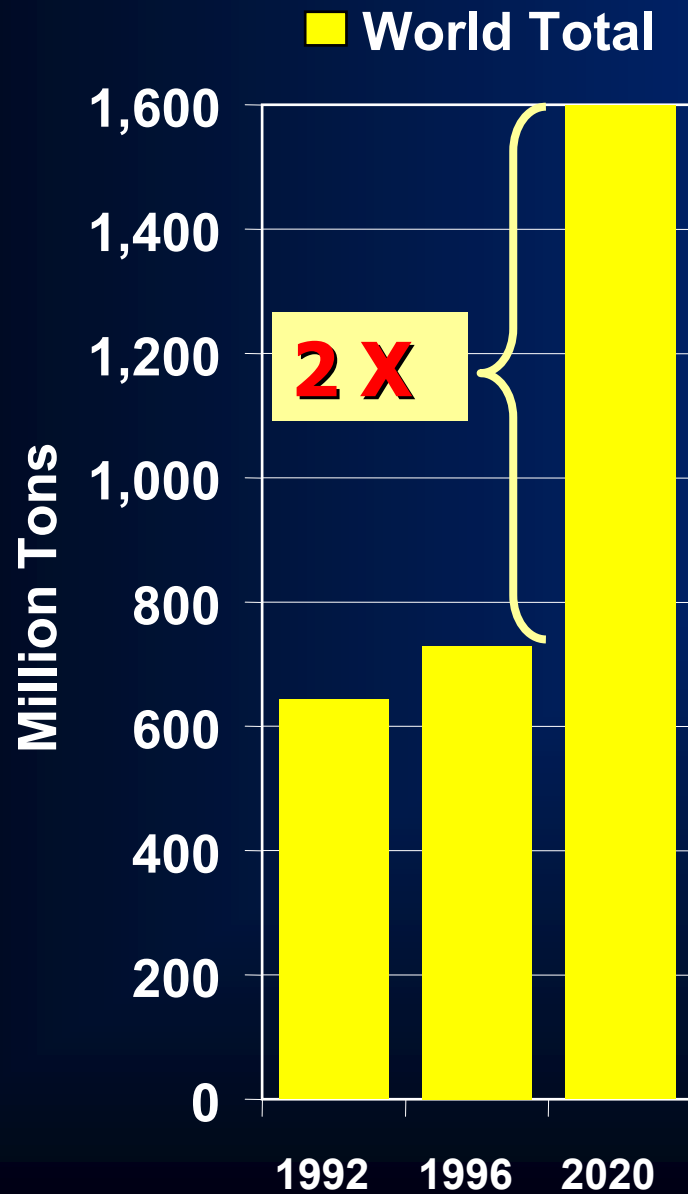


Trade Has Been Escalating

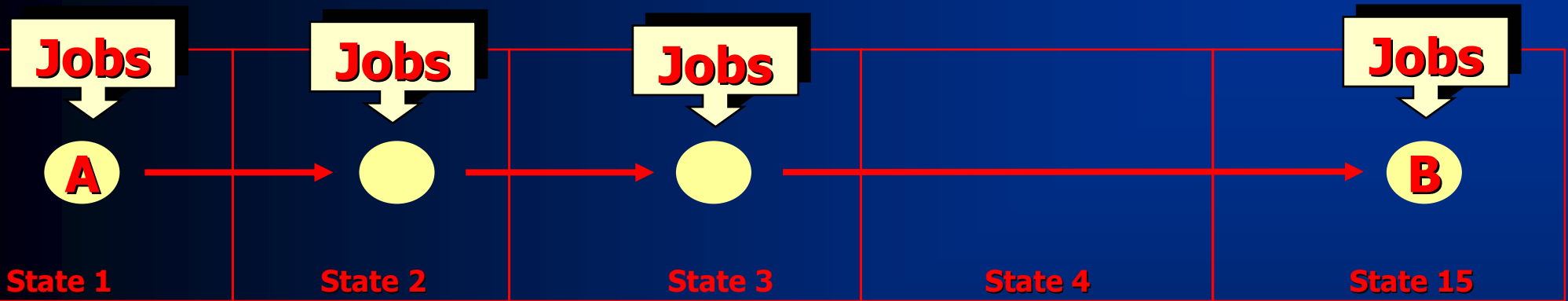
US/Latin American Trade (\$Billion)



Alliance Trade Growth Trends: Forecasts



Issues Cut Across State Lines

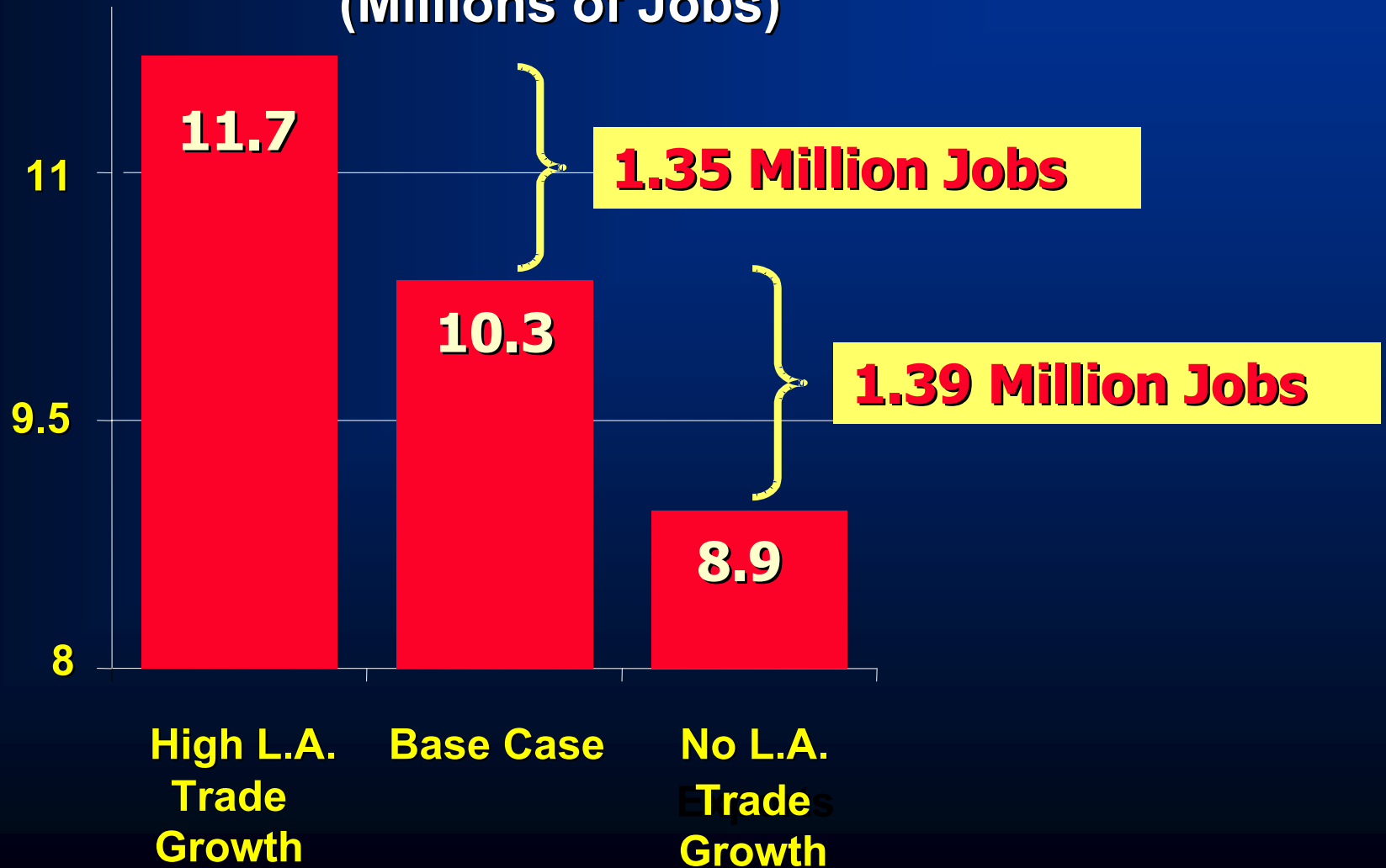


Freight issues transcend boundaries

**Safety, capacity, emissions, funding,
continued growth, etc**

Change in Alliance Employment From 2000 to 2020

(Millions of Jobs)



Strategic System

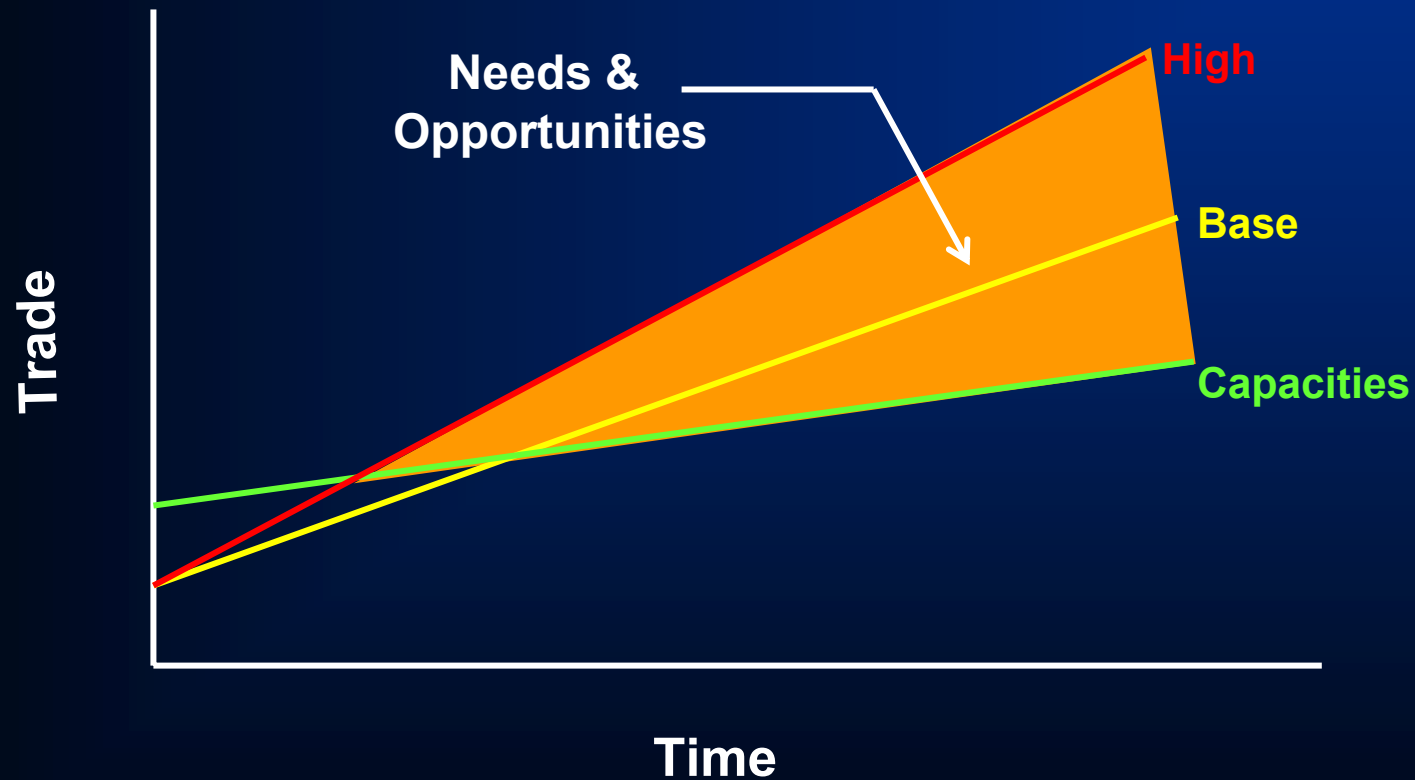
**Focus on
Strategic
Framework**

Corridors

Gateways

Connectors

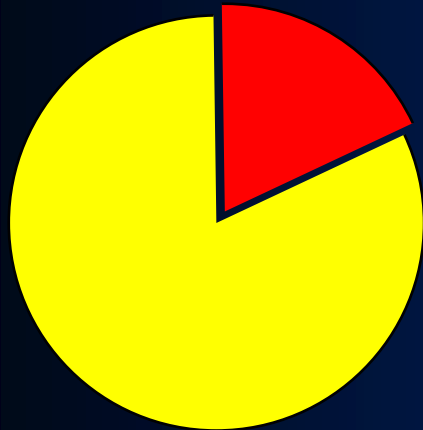
Demand will Exceed Capacity



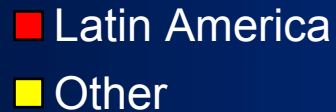
20 Year Needs Estimates

LATTS Strategic System

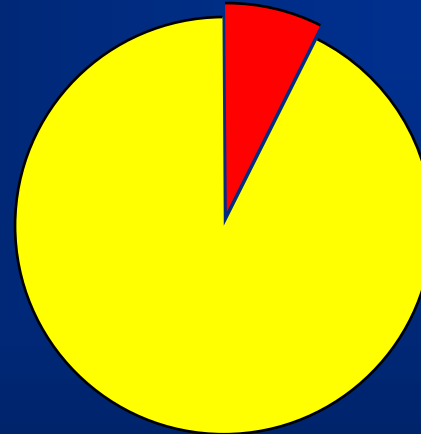
TOTAL 20-YR NEEDS ESTIMATE



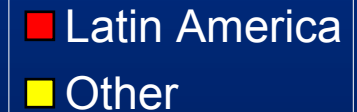
\$92 Billion



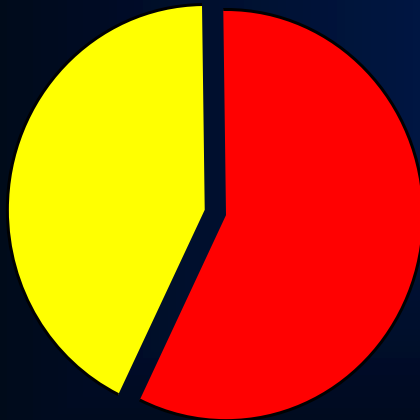
20-YR HIGHWAY NEEDS ESTIMATE



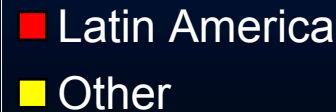
\$67 Billion



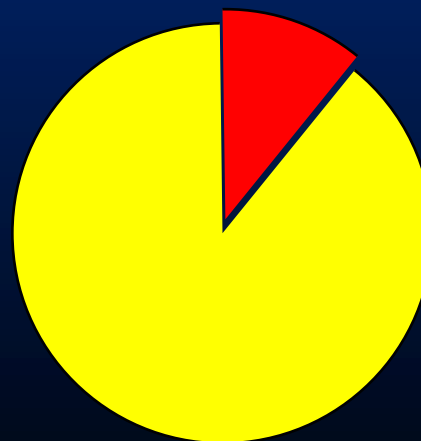
20-YR PORT NEEDS ESTIMATE



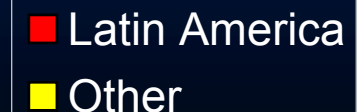
\$22 Billion



20-YR AIR CARGO NEEDS ESTIMATE



\$3.3 Billion



Strategies

- **Utilization of Existing Infrastructure**
- **Add Physical Infrastructure**
- **Increase Operating Throughput**
- **Corridor Approach for Investing**
- **Develop Agile Freight Operations**
- **Improve Clearance at Gateways**
- **Attention to Connectors**
- **Encourage Technology**
- **Integration of Information**
- **ITS Applications**
- **Increase Public Awareness**
- **Improve Institutional Relationships**
- **Improve Freight Profile**
- **Partnerships**

Core Tasks of Phase II

BUILD ON WHAT WE KNOW

Supplement LATTIS Database and Findings

UNDERSTAND OUR SUCCESS

Monitor the Results of Implementing LATTIS I

COMMUNICATE

Develop Communication Tools

LATTS II Strategic Transportation System

- > LATTS STS – Gateways & Corridors:**
 - > 43 Water Ports**
 - > 46 Airports**
 - > Border Crossings (TX)**
 - > 22,285 miles of Railroads**
 - > 22,859 miles of Highway Networks**
- > LATTS STS is currently being updated and expanded (addition of OK & MO)**

LATTS Alliance Region and Short Sea Shipping Concept

The Premise:

- > Use of Other Modes (including Short Sea Shipping) to Help Alleviate Truck Traffic Along Major Highways, and Support Trade Growth
- > Barge Transport Dynamics Are Changing:
 - > Traditionally Low Value, Bulk Commodities
 - > Market/Infrastructure Conditions and Technologies Are Rapidly Changing
 - > Evolving into Higher Value, Containerized Goods



LATTS Alliance Region (Gulf Coast) and Short Sea Shipping Possibilities



Pioneering Service

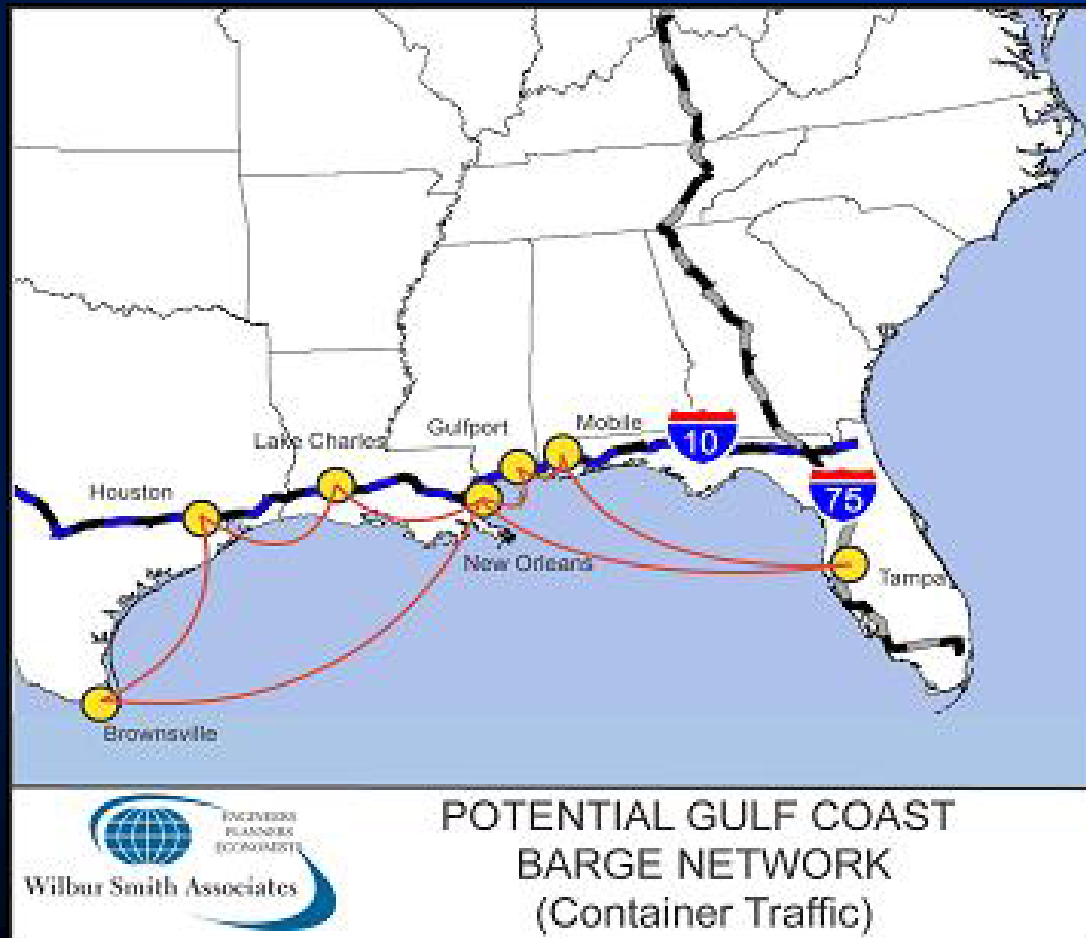


Current Gulf Coast Barge Service

- > Houston-New Orleans:**
 - > Regularly Moves Container Traffic Feeding Large Ships Bound for International Destinations**
- > Lake Charles-Houston:**
 - > Primarily Transports USDA Foreign Aid Goods to International Destinations**

Potential Future Gulf Coast Barge Service

- > New City Pairs
- > Integrated, Scheduled Network



Projected Gulf Coast Barge Traffic Container Volumes

Barge Segment	Year		
	2008	2013	2025
Brownsville to Houston	50,000	57,244	79,500
Houston to New Orleans	50,000	58,145	83,704
Houston to Gulfport/Biloxi	12,500	14,434	20,424
Houston to Mobile	12,500	14,368	20,104
New Orleans to Tampa	50,000	57,385	79,871
New Orleans to Gulfport/Biloxi	12,500	13,695	17,052
New Orleans to Mobile	12,500	13,879	17,841

Source: Wilbur Smith Associates based on barge industry consultation.





Benefits of Barge Freight Movement

- > Reduced Highway Traffic**
- > Efficiency and Cost Savings**
- > Environmental**
- > Increased Safety**

Benefits of Reduced Highway Truck Traffic

> Size and Capacity Advantage of Barge over Truck

Modal Cargo Capacity Comparison

			
One Barge	1 Rail Car	100 Car Train Unit	Large Semi
1, 500 Ton	100 Ton	10, 000 Ton	26 Ton
52, 500 Bu	3, 500 Bu	350, 000 Bu	910 Bu
453, 600 Gal	30,240 Gal	3, 024, 000 Gal	7, 865 Gal

Source: Iowa Department of Transportation, The Tennessee-Tombigbee Waterway Development Authority

> This Advantage Can Result in Removal of Significant Volumes of Trucks from Congested Corridors and Urban Areas

Efficiency and Cost Savings

> Superior Fuel Economy of Barges – Only a Fraction of Truck's

Modal Fuel Efficiency Comparison - Number of Ton Miles per Gallon of Fuel






Source: U.S. DOT Maritime Administration,
The Tennessee Tombigbee Waterway Development Authority

> Additionally, Reduced Labor Requirements of Barge Operations

Benefits to the Environment

- > Barge Transport Produces the Least Amount of Emissions Compared to Rail and Truck Freight – Offers an Environmentally Friendly Alternative

Modal Emissions Comparison - Pounds of Emissions per Ton-Mile

Mode	Hydrocarbons	Carbon Monoxide	Nitrous Oxide
	0.0009	0.0020	0.0053
	0.0046	0.0064	0.0183
	0.0063	0.0190	0.1017

Source: C. Jake Haulk Ph.D. - Inland Waterways as Vital National Infrastructure:
Refuting "Corporate Welfare" Attacks, The Tennessee Tombigbee Waterway Development Authority

Benefits of Increased Safety

- > **Death and Injuries Resulting from Barge Transport Are Significantly Lower Than For Other Modes**

Modal Safety Comparison - Deaths and Injuries per Billion Ton-Miles

Mode	Deaths	Injuries
	0.01	0.09
	1.15	21.77
	0.84	N/A

Source: C. Jake Haulk Ph.D. - Inland Waterways as Vital National Infrastructure:
Refuting "Corporate Welfare" Attacks, The Tennessee Tombigbee Waterway Development Authority

Challenges of Barge Freight Movement

- > **Scheduled, Reliable Service**
- > **Network Development**
- > **Port Infrastructure**

Required Service Attributes

- > Shippers' New Emphasis Focuses on the Characteristic of Goods Movement and Not the Mechanics of the Movement
- > Scheduled and Reliable Service Is Critical
 - > Time-Definite Service and Guaranteed Delivery Times Allow Slower Modes (e.g., Barge) to Compete with Faster Modes

Network Development

- > Need a Combination of Both inland and Deepwater Coastal Ports**
- > Barge Operators Must Expand Beyond Single City-Pair Service (Gulf Coast) to Multiple Port O-Ds**
 - > Multiple-Stop Barge Routes Can Be Supplemented with Direct and Faster Routing Between Larger Ports**

Port Infrastructure Issues

- **Need Infrastructure Improvements, Expansion or Both**
 - **Traditional Barge Facilities Designed to Handle Mostly Bulk**
 - **To Accommodate Containers Traffic Must Have:**
 - **On and Off-load Equipment (Cranes, Lifts)**
 - **Storage and Staging Areas (Land Requirement)**
 - **Improved Truck and Rail Access**
 - **Truck Queue/Waiting Areas (Land Requirement)**
- **Infrastructure/Equipment and Operating Cost Issues**
 - **Public, Private or Both**
- **Dredging Requirements**

Moving Forward

- > **None of These Challenges Need to Be Immediately or Simultaneously Met**
- > **Issues That Need to be Addressed In Some Form, and Time**
- > **Potential Gains From Short Sea Shipping Are Substantial and Should Not to Be Overlooked**
- > **LATTS II Will Be Looking at Public and Private Sector Roles in Short Sea Shipping, Particularly Because of the Different Public Benefits That Can Be Captured From Wider Utilization of This Mode**

Thank You !

